

#2



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RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/081,327

DATE: 03/19/2002

TIME: 15:06:45

Input Set : A:\Sequence Listing.txt

Output Set: N:\CRF3\03192002\J081327.raw

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3 <110> APPLICANT: Huang, Tim
5 <120> TITLE OF INVENTION: HIGH-THROUGHPUT METHODS FOR DETECTING DNA METHYLATION
7 <130> FILE REFERENCE: UMO1523
C--> 9 <140> CURRENT APPLICATION NUMBER: US/10/081,327
C--> 10 <141> CURRENT FILING DATE: 2002-02-21
12 <150> PRIOR APPLICATION NUMBER: 06/120,592
13 <151> PRIOR FILING DATE: 1999-02-18
15 <150> PRIOR APPLICATION NUMBER: 06/118,760
16 <151> PRIOR FILING DATE: 1999-02-05
18 <160> NUMBER OF SEQ ID NOS: 54
20 <170> SOFTWARE: PatentIn version 3.0
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23 <211> LENGTH: 630
24 <212> TYPE: DNA
25 <213> ORGANISM: Homo sapiens;
27 <220> FEATURE:
28 <221> NAME/KEY: Unsure
29 <222> LOCATION: (1)..(630)
30 <223> OTHER INFORMATION: All n's are unknown.
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W--> 38 ctctgctaaa atttttagcgt ntnaatcggg ggatngagat ttgcataagt ttgacgggag      180
W--> 40 ggtcntgtnt tcgtttcaag tatgggtnat tgtccacacc ttttcttnaa gantngcgcg      240
W--> 42 gggggcctaa ttcgaanggt naanaaaana aggaagacng angtgccana atgnacccca      300
W--> 44 atccacanc tttgggganan ctcccaacgc gttngatgca aacttgaatn tcnntactnt      360
W--> 46 cccctaaatn ncttggngtt atcntggccn aactgtttcc tgtnttaaaa tnnttanccg      420
W--> 48 ctccccattc cncctctannt acnaanccgg aagcttnaat tttnaanncc nggggtncct      480
W--> 50 aatganttaa ctaaccccct tanttncctt nnnccccngc cgnnttcnat ccggaactn      540
W--> 52 ttttccccct ncnnttatta atcncncnc cccggaaaan gcggttgctt tntgggcect      600
W--> 54 nccctctcc caatganccc cncceggntt
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58 <211> LENGTH: 913
59 <212> TYPE: DNA
60 <213> ORGANISM: Homo Sapiens;
62 <220> FEATURE:
63 <221> NAME/KEY: Unsure
64 <222> LOCATION: (1)..(913)
65 <223> OTHER INFORMATION: All n's are unknown.
68 <400> SEQUENCE: 2
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W--> 71 aggtcgacca taaggagnca ccagctcgcc ccacttcacc tncggcgng ctggacacga      120
73 gctgggcgct ataattcgca gaacgtcccg ggccgaaaag gatggggaac acacctggag      180

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W--> 75 ccagggcgaa gacatctaga gatgcaaagg gaatggaaga aaacccggnt aggttctctc      240
W--> 77 agagcaagac ccctttgctg gaaacatagg nttctaagcc cgggtgggtgg gagcaacagg      300
W--> 79 gtgggagAAC tnagactnca gcctgaactt agcgctnccc caccttgctn cccatnaaga      360
W--> 81 tcccgtatatt ggcagggtcca gaccccgcca aacttcaaga ncccggcggg agggacaggc      420
W--> 83 aaacttgacg cgacangggg gacccgaacg gnacccccca ggaggggaan aaggggcngg      480
W--> 85 agatcagacc gttggtgngg gtngaattng gcnaaatntt tttnaacaca cntggtggng      540
W--> 87 tggaaccttn aatccttttn tagnctcnct tgncttgac ctntnttagn ggggaaatcc      600
W--> 89 cctggggngn tnntnncttt gcntngccaa ntggngggtg ngtngnntt ttnttccatn      660
W--> 91 ntntnggggt tggcngatg tggggmntnt ttcngnttn ncngngnctt tttggggnnn      720
W--> 93 aanatngncn ttattntggg ggaaananaa agcttggnaa ttttttgggg aaanttgnnn      780
W--> 95 ccnnccgggt nggnaangnn ttntttnttg nngntctant ncgntnnggt ccnttttnc      840
W--> 97 cngttngng ngaggtncce nncnnnggn ngccttnggt tggggatttt tttggggcnc      900
W--> 99 ctgngnggtt tgg                                     913

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104 <212> TYPE: DNA
105 <213> ORGANISM: Homo sapiens;
107 <220> FEATURE:
108 <221> NAME/KEY: Unsure
109 <222> LOCATION: (1)..(952)
110 <223> OTHER INFORMATION: All n's are unknown.
113 <400> SEQUENCE: 3

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W--> 116 anggccgcct ttatatcacn agggcgggccc gcctncaggc cgaccataat tccatcccag      120
W--> 118 gccatttcct tcctccgggg gtctttnta aaaganctcc ggnaccncct ccccatccc      180
W--> 120 tggagtgtnt tctgcgcgga acttancctt ggggagagga ngtagcccg nctgtgacct      240
W--> 122 cggcctttcg ganngtgnct tgcgntcct tactggccc tccccttgct ttccagatac      300
W--> 124 cctgtgtaac naactcgacc agnancggaa ggcgcggtta tgcattccagc anaaattgaa      360
W--> 126 aggtgcggaa ccggnaaaca aagatangag ggnntnctng tgccngccgt nctgcnactg      420
W--> 128 aatgaatgaa tagtgngact agtgaggaag nccaccatcc acngnggatc angatgtntg      480
W--> 130 annataaaa ntggnaactg attttattgn gagagctccc aacgcattgg atgcatagct      540
W--> 132 tngagtatct ataagnnnca cctaaataac ttgaccnaat catgggcaat aactggnncc      600
W--> 134 tgtngaaaa tnmatccct naccaanccn cacaacatnc taccnnaaa ccataaaagt      660
W--> 136 gtaaaaaaccn tgggggtccc caatnnantg aaccaacctc ncantnaatt nccntnnnc      720
W--> 138 ctacnancce cttttcnaa ccnaaaaacc cttcntaccc actncattaa atgaancncc      780
W--> 140 cccccccct aaaaancccn ntttncaa atngncccc tncnccntc ctntanntan      840
W--> 142 tnnactccna tanctcngc ctatcntntt tcnnannaac nnnatcaanc tanncaaaa      900
W--> 144 ncnaaaannc cnnattcccc naaaccnnaa gaaaaccnna taaaaaacan tt          952

147 <210> SEQ ID NO: 4
148 <211> LENGTH: 1059
149 <212> TYPE: DNA
150 <213> ORGANISM: Homo sapiens;
152 <220> FEATURE:
153 <221> NAME/KEY: Unsure
154 <222> LOCATION: (1)..(1059)
155 <223> OTHER INFORMATION: All n's are unknown.
158 <400> SEQUENCE: 4

W--> 159 gnnnnnttga ancccttnag anccggncce gacgtncat gctcccgcc gcctggccgc      60
161 gggatatcac tagtgcgggc gcctgcaggc cgaccataat gagttgtagc aaatccacac      120

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163 tttgtagttg ggaggaggag agctggtggc caatgtttgt ccaactgttt atttttcgag 180
165 acccagccta ttgaggaagg ctgtttcaag caggcttcgt tcctacaaac acacaaacat 240
167 ctttctgttt gcctacaaag aaaaggggac cagcgctgga tttgcatgcg aatgaggagc 300
169 cccgggagga gacgtccttg cccatcaaag gccgcggtag cctggcggcc ctcagccttt 360
171 gttccagcac ctgctcgctt gcacggcctg acggggcgcg gccccgcgct cctggctcgc 420
173 ccatccaggg tccacggctc actcgtccct cgccctgccc gcggccacac ctctcgcagc 480
175 tcatacctca cccgccccgc ggccctgctt cccccagtct catcctctcg ggagcaggcc 540
W--> 177 cgcagggtct gcaaggccaa gaacggaacc ccaaacgcan aggggtgggga ggtgagccgg 600
179 caggacgcaa aactcggaat cgaggcggtt tgggtttaca cgttccttta ctctggctca 660
181 cgctggtctt cacctggtta tgggagagct tcccaacgcg ttggatgcat aacttgagta 720
W--> 183 ttctatagtg gcacctaaat aagctttggc gtaaaccatgg gcatanctgg ntctctgngt 780
W--> 185 gaaattggta tccgnttcac aattccccac aacataacaa gcccggaagc nttaaagngg 840
W--> 187 aaaagctggg gtgcctaata agggactnac tcacattaat tgcgntgggc ttacttgccc 900
W--> 189 nttttccaan cgggnaaaaa tttcnggcc aattgcattt aatgaatcgg caaanccccc 960
W--> 191 ngnanaggcg ntttngnaa tgggcctttt ccctcttggg ttnnttaatn nntnggntng 1020
W--> 193 gccnttggtt nngcaacggg ntaantantn aaagggggg 1059
196 <210> SEQ ID NO: 5
197 <211> LENGTH: 895
198 <212> TYPE: DNA
199 <213> ORGANISM: Homo sapiens;
201 <220> FEATURE:
202 <221> NAME/KEY: Unsure
203 <222> LOCATION: (1)..(895)
204 <223> OTHER INFORMATION: All n's are unknown.
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W--> 210 accataaata tagagccaaa ccgtccaccc agccgtggcg cgaatctctt gncccccac 120
212 tctcaagtgt cctttggctc tggagctcct gggcccgggt tccgcatccg ggaggagaaa 180
W--> 214 ggagcgagcg cgcacggtgc ctcccagagg caggagagcan aggagaggaa aggggaagac 240
W--> 216 tatgaaacgt nctaactaat gcgcgtactg aatgcgcatt cacgtggtca gttaccgatg 300
W--> 218 tgettctctc tctcctggcc cgcagggaca gagcgcgcca gggacgtgcc agccccggnc 360
W--> 220 ccggtctgc acatttacta tgtgacctcc tgnagtcatt ctctctccca gtcctagatg 420
222 agatcttaga gtcacgcaa gcttgccctg tggaaacagac taagtatctg actttgcggg 480
W--> 224 gatgtcctga tgcccatcna aggacagaaa tcttgacac ttgcggatgn gctttatggg 540
W--> 226 agaagctcca acgccgttg atgcatagct ttgggnattc tatagngcac cttnnatagct 600
W--> 228 ttggcgnaan tcatggncat ngntggnttn ctgngggaaa tggatccgg ttacaatttc 660
W--> 230 acacaacata caaccggaa gcantaaagt ngtaaagcct gggtgcccaa tngggggng 720
W--> 232 ctaanttcca ttaattgggg tggcncannt gccgntttca gtcggggaaa acctggntgg 780
W--> 234 ccanctggnt tnttggnnnt ggccannccc ggggagaggg ggntttggga anttggnnng 840
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240 <211> LENGTH: 900
241 <212> TYPE: DNA
242 <213> ORGANISM: Homo sapiens;
244 <220> FEATURE:
245 <221> NAME/KEY: Unsure
246 <222> LOCATION: (1)..(900)
247 <223> OTHER INFORMATION: All n's are unknown.
250 <400> SEQUENCE: 6

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251 aattggggccg acgtcgcatg ctcccggccg ccatggccgc gggatatcac tagtgccggcc 60
W--> 253 gcctgcaggt cgaccataaa aaagccacct ccgtgggaga tggtagcnatt cagatcccaa 120
255 actgaggcga agaccgcgcc ccggagtgtg ggccgccttc ccagtaaate tgcttatgag 180
W--> 257 aggaagtgat ggaccagatg ctcaaggggt agggactaga ttttgcctta canaggacaa 240
W--> 259 gtcagtctct gaagagaagt cgcggagagg gacgcanaac gcagtgggac ggaanggtct 300
261 cggggaaaagt gggcttgccg agaagtgccg gggagctcgt gggaaagtga gagagccgct 360
263 gggattcggc caggaaaagc gagagtgcgc gaacaagctt cacagaaatg gccttatggg 420
W--> 265 agaactccca acgcgttggg tgcntagctt gantatctat agtgtccctt aaatacttgg 480
W--> 267 cgtaatcatg gtcatanctg tttcctgtgt taaattgtta tccgctcnen attccccgca 540
W--> 269 cctacgaacc ngaaacctaa ntntaaacct ggggtgctaa taattancna actccccatta 600
W--> 271 attgcnttgc cnnctgccc ctttccatcg ggaaaccgtc ttccacttcn ttaatgaate 660
W--> 273 gcccccccg gaaaaggggt gcttttnggg ctttccnttc cccctaatc ctgncngcn 720
W--> 275 tcggtnccgn acgttccctc ccaggngtat tcggttccga acngggncgc gaaanntnac 780
W--> 277 aagcctnagg cgacctnaag gcntncngnt tccnggncgc ccgananccc aatnaccctt 840
W--> 279 ttagnggaac cccggnataa accggttncg gaacccttgc ctntttcccc centagnaan 900
282 <210> SEQ ID NO: 7
283 <211> LENGTH: 730
284 <212> TYPE: DNA
285 <213> ORGANISM: Homo sapiens;
287 <220> FEATURE:
288 <221> NAME/KEY: Unsure
289 <222> LOCATION: (1)..(730)
290 <223> OTHER INFORMATION: All n's are unknown.
293 <400> SEQUENCE: 7
W--> 294 antgggcccga cgtcncatgc tcccggccgc catggccgcg ggatatcaact agtgccggccg 60
W--> 296 cctgcagggtc gaccataana tcatttgcac cacatttaca tccatccctg ggccttggag 120
W--> 298 gttgagggtg gtcccttggg tccaagaga agctgcccct cagaggctct cananccan 180
W--> 300 gggacggggg ggtggagccc gttgcacagt catgcantgc anctggggca ggaagcgaga 240
W--> 302 gtgaggaggg gggaggccac agcccgcgga ngcaaggcgg gtgcagggtc tctggggacc 300
W--> 304 gagggagggt ccagaagttg agccctgaag ccctgctggc ccctgggcgc agggccanct 360
W--> 306 caggccccca nggattngac tcctgnacct gacattttcn atanaaaacc cccgggaccc 420
W--> 308 ctataacctc tcccggntg gttgncggcc ttttgggnaa ttntttttt gaaaaccccc 480
W--> 310 ncccccttgg atccaactgn atttncctta ttttccccc aaactngggg tnnccagncc 540
W--> 312 aaccttttcc cttttaaaat ttttnccccc cccnttcccc cccctnnaac ccccaanaa 600
W--> 314 ntttttncce cnggnntncc naaaatcanc ccccattttt tncccccccc cennctcngg 660
W--> 316 aaanttttcc tctnttttta tntccccccg gaaaaaaggg tttntncccc cccccnaac 720
W--> 318 accttttccc
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322 <211> LENGTH: 925
323 <212> TYPE: DNA
324 <213> ORGANISM: Homo sapiens;
326 <220> FEATURE:
327 <221> NAME/KEY: Unsure
328 <222> LOCATION: (1)..(925)
329 <223> OTHER INFORMATION: All n's are unknown.
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335 tcactagtgc ggccgcctgc aggtcgacca taatccctac accaaccctg ccaggggagg 120
W--> 337 tttctaangg cattttacag atgagcaaac tgtaccagcc agagtctcca aagcgcgggc 180

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Input Set : A:\Sequence Listing.txt

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W--> 339 accccacact gntttnctnct tggcggnngg tgggggggtct cttagagggg gtaagagcac      240
W--> 341 caggagcccc aggcagcccc gntnccact ctggctgccc ggaccgtncg ggagccacgt      300
W--> 343 cctncccaa aggaggcccc ttacctgcgg gggcacctnc cgggcgcctc gcgtgtcggg      360
W--> 345 cccaaagcca ccgaggtctg gagccgctgg ctatactcgg tctctnctct gcccgncggc      420
W--> 347 ccccgagctn ctactgcang cgggcccgtt gcctnttctt gggtcnnctt gctagncccc      480
W--> 349 cncnctgan ggcctcatna ncnntnccgg aggaggagg gaggccgctt ggtggccnga      540
W--> 351 ggcggcggtt ntattgctta cttgntctng ggggtggggg nntctnagan tgggtcnanc      600
W--> 353 tnnntggggn ggcttctnnt gtngnncctn ctaangnggg gngcatttnt tgcnnnngga      660
W--> 355 nnnngcnccn nngnggggnt tnnnnnaaan gtttttttgt ctgannnnca agcantngnn      720
W--> 357 tgganttant ttngngnggg angnnccnc nacnnggnnn gtannngntt nnnnagtttt      780
W--> 359 tnnnaggggc cnnanagnan ggnngngnng nngtngatng ngnttgcntt ngntaggntn      840
W--> 361 gnnntnctnt tnnnnatgnt nttnatnatn nnnngcnnaa nntgngnagg gngatnctt      900
W--> 363 ngngnctnnt gtngngntnt ttcng      925
366 <210> SEQ ID NO: 9
367 <211> LENGTH: 1047
368 <212> TYPE: DNA
369 <213> ORGANISM: Homo sapiens;
371 <220> FEATURE:
372 <221> NAME/KEY: Unsure
373 <222> LOCATION: (1)..(1047)
374 <223> OTHER INFORMATION: All n's are unknown.
377 <400> SEQUENCE: 9
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380 gggccgcctt gcaggtcgac cataactctc gaggtttcct ctttccccac ctactactgc      120
382 tagccctgac gtgaggggat aggtgtcctg tcgcgtatt cccatgtaga tacgacagat      180
384 ggaacgtaac tgcggttggc caggggctcc gcagtggctg gggcgccgga gtgcgtgct      240
386 ctgactttcc ggtgccgggc tctgtctcca ggctggaaat gtgctcctag ctctcctagg      300
388 gggacctgga cctaggggag gagattgggc ggagcccgcg gagtgtgccc aacctaggca      360
390 ccacgctggg cctggtctcc tgcgagcgct ccgggctgtc cctgccggtg catcggggtt      420
392 ccacgtcctg gggagagacg aagatgccct gggaaagata aacagccaag tttgtcccc      480
394 ggaggaaaga agcttgacc tggtcctgt gtctgtgctg gggagggcca ggggataagt      540
396 gcgggtgctt gccgcctcc cttgtagaac ttggcgtctc gcacctttta taaacgccag      600
W--> 398 gatccgaggc cagaagttag ntggtggcca ggntagctgc tgaatgggtt gtggangaca      660
W--> 400 aggangtgga tgctggccag ggaagatgtg cttgtcaggt angtaacttc gacaagaaga      720
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W--> 404 gtgataaaag gaacttgttt tnaggcnaga cacatnctta tgggagaact tccaacgcc      840
W--> 406 gttggatcat aactttgaga ttctataagg gccctaaaa aantttggcg gaaannatgg      900
W--> 408 gcaaaanttg ttcccggggg aaatngtann ccttttaca attnccncaa cntnccganc      960
W--> 410 cgaaccttaa angnaaaanc ccggggggcc taangngnga nctaactccc attaaatggg      1020
W--> 412 nnggcnnnat ngccntttt caanncg      1047
415 <210> SEQ ID NO: 10
416 <211> LENGTH: 634
417 <212> TYPE: DNA
418 <213> ORGANISM: Homo sapiens;
420 <220> FEATURE:
421 <221> NAME/KEY: Unsure
422 <222> LOCATION: (1)..(634)
423 <223> OTHER INFORMATION: All n's are unknown.
426 <400> SEQUENCE: 10

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VERIFICATION SUMMARY

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L:9 M:270 C: Current Application Number differs, Replaced Current Application Number
L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:34 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:36 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:38 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:40 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:42 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:44 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:46 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:48 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:50 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
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L:140 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:142 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:144 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:159 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:177 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:183 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:185 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/081,327

DATE: 03/19/2002

TIME: 15:06:46

Input Set : A:\Sequence Listing.txt

Output Set: N:\CRF3\03192002\J081327.raw

L:187 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:189 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:191 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:193 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:28075 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:47
L:28090 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:48
L:28105 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:49
L:28120 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:50
L:28135 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:51
L:28150 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:52
L:28165 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:53
L:28180 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:54